

# Update on the Geronimo and Alligator Creeks Watershed Protection Plan



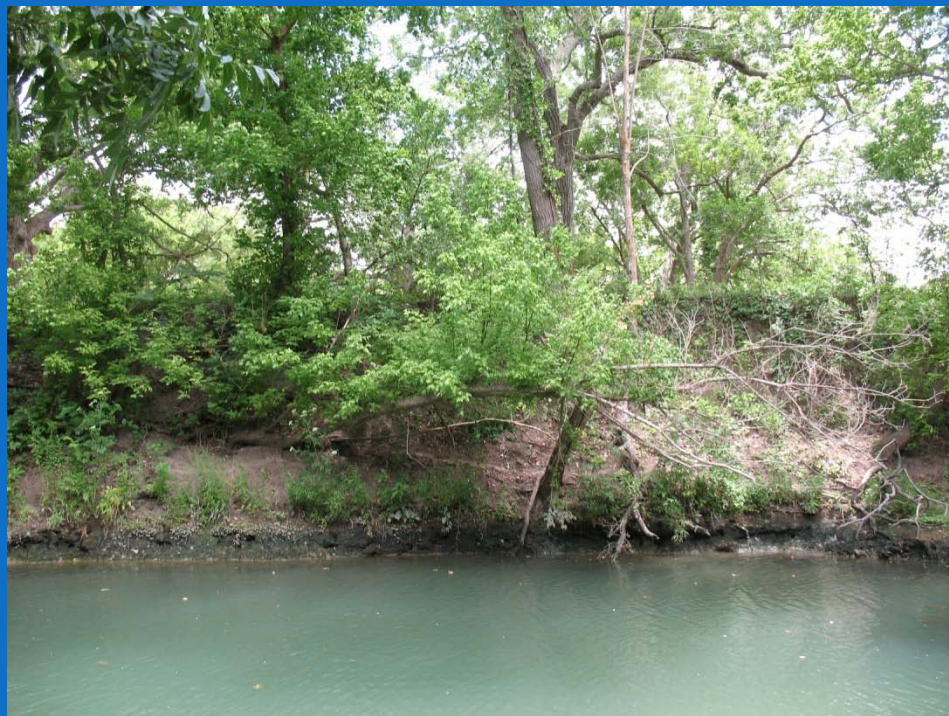
Ward Ling

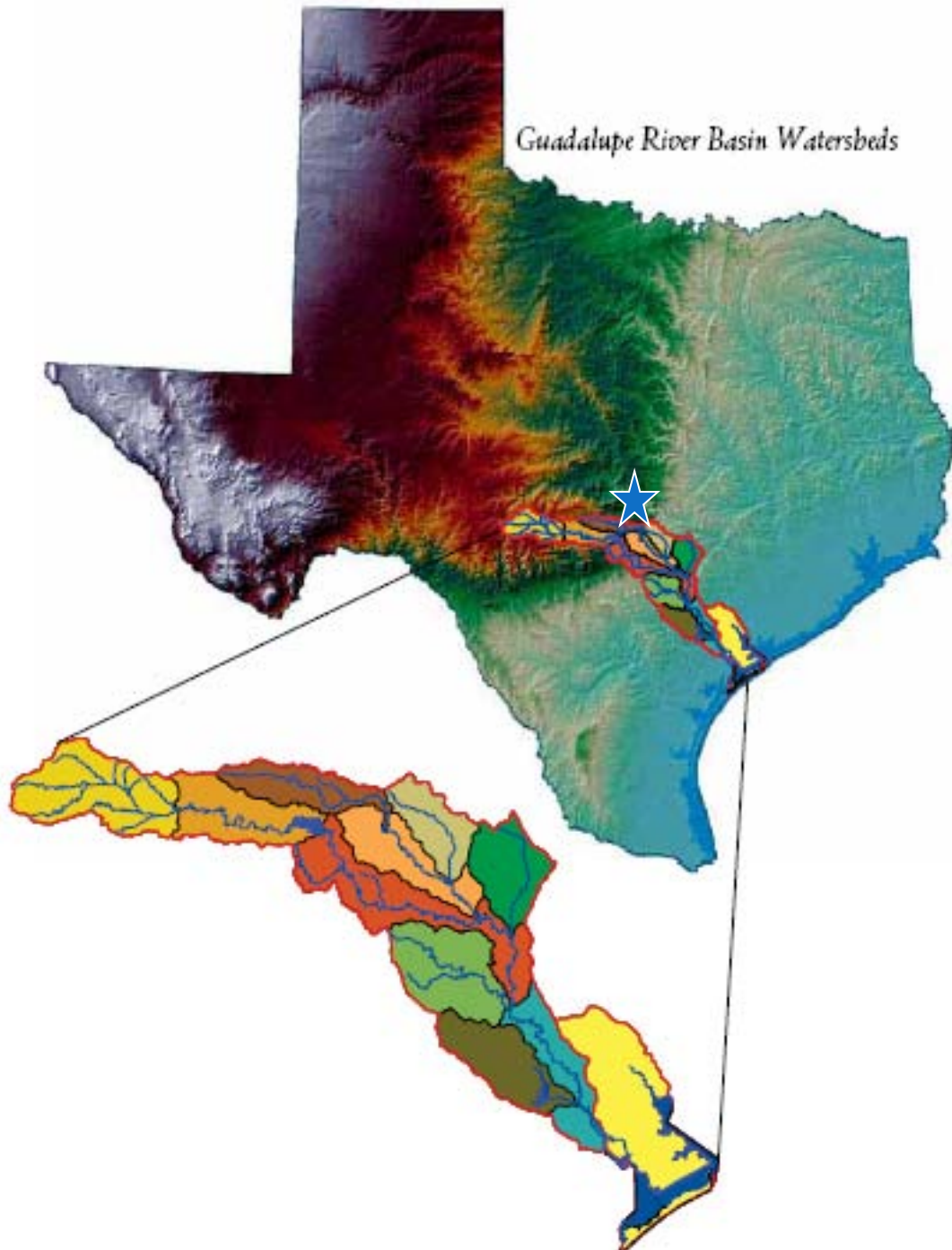
Texas A&M AgriLife Extension



# Overview

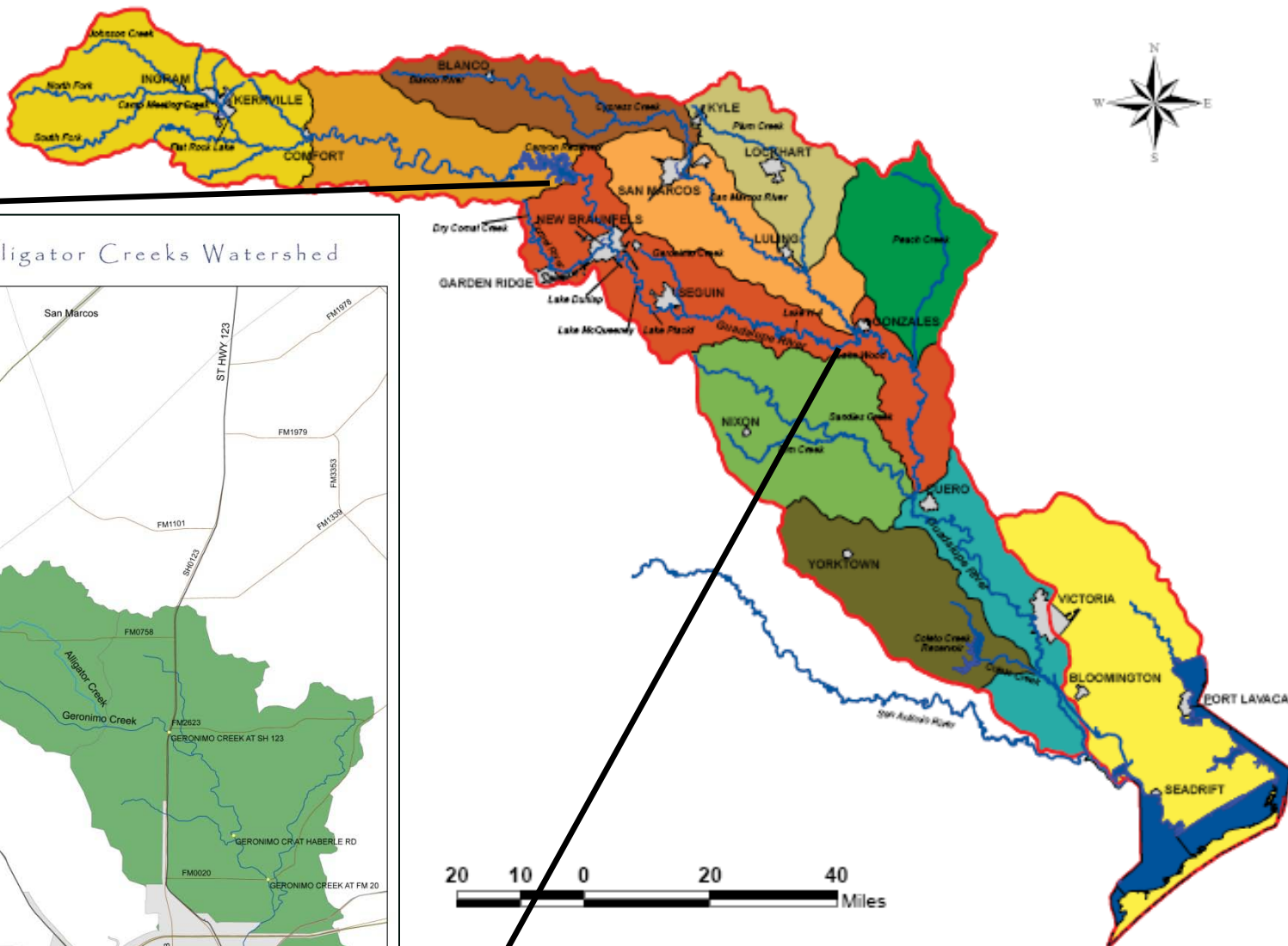
- Water Quality Impairment
- Project Funding
- Project Development
  - Stakeholders
  - Data Collection
  - Data Analysis
  - Draft WPP
- Timeline



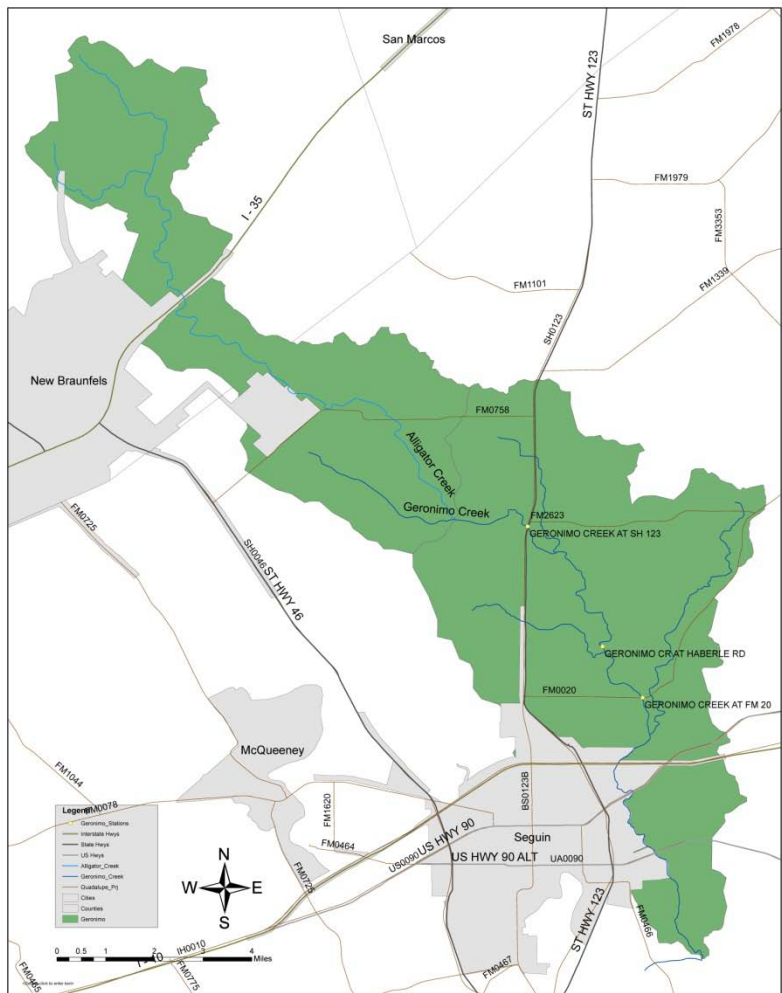


Geronimo and Alligator Creeks are located in the Guadalupe-Blanco River Basin

# GUADALUPE RIVER BASIN WATERSHEDS



## Geronimo and Alligator Creeks Watershed



# Water Quality

- Geronimo Creek was listed on the 2006 303(d) list for not supporting its contact recreation use
  - 2008 assessment, *E. coli* geomean of 162 cfu/100mL
- Geronimo Creek was first listed in 2000 for concern for nutrient enrichment
  - 2008 assessment, all 60 samples exceeded 1.95 mg/L nitrate-nitrogen



# Funding

- GBRA received grant funding from the Texas State Soil and Water Conservation Board
- GBRA subcontracted to:
  - AgriLife Extension and AgriLife Research to assist with project components



# Project Development

- Stakeholder Facilitation
  - Steering Committee
  - Work Groups
- Data Collection
- Data Analysis
- WPP Development



# Steering Committee

- Formation of a Steering Committee that represents the various interests in the watershed
- Steering Committee members assisted with the development of the Watershed Protection Plan and the resulting implementation through formation of work groups





# Role of Work Groups

- Work groups were an extension of the Steering Committee and the Partnership that discussed and worked on specific topical areas
- Work groups made recommendations and developed components of the WPP for their topic
- Work group members will provide leadership in implementation of practices and thus, were the most appropriate forum for decisions on topics in their area

# Urban Nonpoint Source Work Group



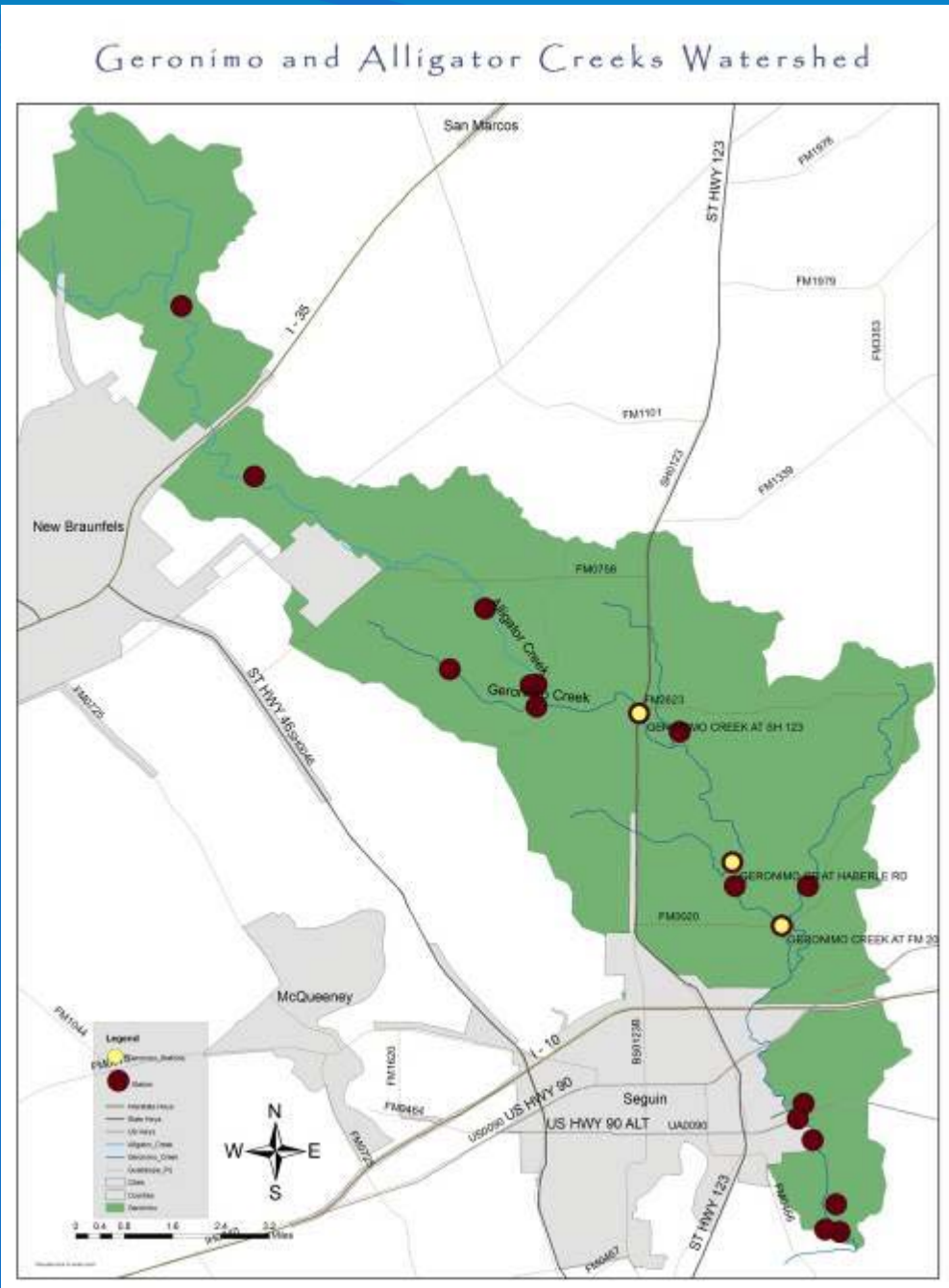
# Agricultural Nonpoint Source Work Group



# Wastewater Infrastructure Work Group



# Targeted Water Quality Sites on Geronimo and Alligator Creeks



# Management Measures

- Urban nonpoint sources
- Wastewater nonpoint sources
- Agricultural nonpoint sources



## Goals

- The Work Group chose to:
  - Locate 150 in Subwatershed 4
  - Locate 300 in Subwatershed 10
  - 100 spread across Subwatersheds 1, 2, and 3
  - 200 evenly distributed around entire watershed
- Land use
  - Rangeland
  - Forest
  - Managed pasture
- Estimated Water
- Modifications P
- Underway

# Urban Common Goals

- Seek funding for a detailed engineering analysis to identify and prioritize new and retrofitted stormwater management practices that should be implemented
- Implement components of Phase II permits in advance of program requirements.
- Provide guidelines and training for effective nutrient management.

# New Braunfels' Goals

- Implement Phase II Stormwater permit activities
  - Initiate a public education and outreach program
  - Create opportunities for public involvement in the stormwater program
  - Establish an illicit discharge detection and elimination program
  - Manage construction site stormwater runoff
  - Manage post-construction runoff
  - Establish pollution prevention and good housekeeping practices for municipal operations



# More New Braunfels' Goals

- Implement a spay/neuter program for pets
- Install additional pet waste stations
- Provide nutrient management training to ISDs, city and county maintenance and parks departments and others

# Seguin's Goals

- Enhance funding for the City of Seguin pet spay/neuter program and expand it to areas outside the city
- Identify areas to install pet waste stations within the watershed and seek funding to purchase and install

# More of Seguin's Goals

- Development of stormwater management strategies that incorporate:
  - Public education and outreach
  - Public involvement and participation
  - Illicit discharge detection and elimination
  - Construction site stormwater runoff controls
  - Post-construction stormwater management

# Wastewater Management Measures

- Incorporate NBU's and the City of Seguin's Sanitary Sewer Overflow Initiatives agreement with TCEQ into the WPP
  - Routine, frequent sewer line inspections
  - Replacement/repair of failing sewer lines
  - Upgrade the lift station to the Geronimo Creek WWTF
- Extend sanitary sewer service to Oak Village North

# Wastewater Management Measures

- Seek funding for educational programs for homeowners with septic systems
- Seek funding sources to provide for repair/replacement/upgrade of failing septic systems
- Explore ways to expand sanitary sewer systems to areas served by septic systems
- Continue with current inspection and enforcement programs for septic systems
- Seek funding for annual household hazardous waste cleanups in the watershed

# Agricultural Management Measures

- Develop Water Quality Management Plans for livestock and cropland operations in the watershed
- WQMPs are voluntary, site-specific management plans for individual operations

County	Subwatershed	Animal Units	Number of Farms	Recommended # of WQMPs
Comal	1	54	2	1
Guadalupe	2	126	4	1
	3	128	4	1
	4	249	8	2
	5	149	5	1

# Agricultural Management Measures

- Pursue funding to create a new position for the local SWCD to assist agricultural producers with design and implementation of WQMPs
- Provide educational programs for agricultural producers targeting nonpoint source pollution control to include Riparian Workshops



# Feral Hog Control

- Organize and conduct annual feral hog education workshops for landowners and managers
- Employ a full-time position to focus specifically on feral hog management in the Geronimo and Alligator Creeks watershed. The position will work directly with landowners to remove animals from the watershed.





# Watershed Coordinator

- Pursue funding for a Watershed Coordinator position located in the watershed
- The position will provide leadership for project activities and actively seek additional funding to facilitate implementation of management measures identified in the plan.
- Additional duties: facilitate Partnership meetings, conduct educational programs, website maintenance, implementation tracking and reporting.

# Measures of Success

- Utilizes a 10-yr implementation period
- Targeted water quality monitoring program to track progress

Year	<i>E. coli</i> Concentration (cfu/100mL)
2013	162
2016	146
2019	130
2022	113

# Measures of Success

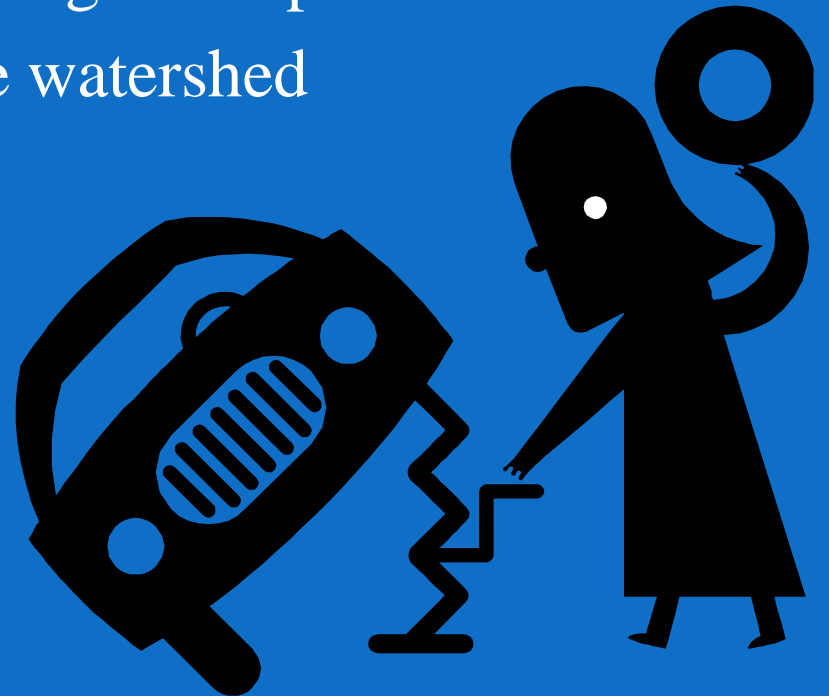
- The WPP will utilize Adaptive Implementation
  - ongoing, cyclic implementation and evaluation process to focus efforts and optimize impacts
  - Track and report on implementation through quarterly Partnership meetings
  - Critically evaluate implementation every 3 years
- Optional tools for the future
  - modified runs of SELECT and/or Bacterial Source Tracking

# Project Implementation

- Technical assistance needs are outlined
- 10 year schedule for implementation of the management measures
- Cost estimates and potential sources of funding identified
- Estimates of load reductions by source

# Modifications

- Addressed 4 key comments from EPA
- Addressed comments from TSSWCB
- Addressed comments from the general public
- Changed/added photos of the watershed
- Formatting

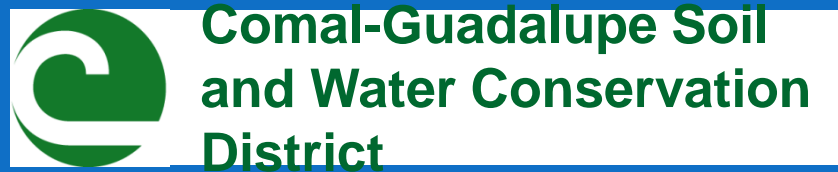


# Timeline

- August 2012- finalize the draft WPP
  - Sign the draft WPP
  - Send it to EPA for their review and acceptance
- Meet again in the fall to discuss initial implementation activities



# Project Partners



# Thank You!

Questions, comments and discussion of the  
draft Geronimo and Alligator Creeks  
Watershed Protection Plan





# Contact Information

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